

IN THE CLAIMS:

Please AMEND claims 10, 14, 19, 21, 25, 29, 30, and 33; and ADD new claims 36-39 as follows.

1. (Previously Presented) A method, comprising:
providing a service with a service process in a server;
configuring a service-specific anycast address to a server interface on a communication link via which the server receives messages from a router or other servers;
monitoring the service process and the service-specific anycast address configured interface;
scheduling the service process and the need for an advertisement message, wherein the scheduling is configured to take advertisement messages received to the service-specific anycast address from other servers into account in determining the need for an advertisement message; and
sending an advertisement message when the service process is able to provide the service via the communication link to all other servers in response to the scheduling.

2. (Previously Presented) The method according to claim 1, wherein the sending of the advertisement message is activated by a solicitation message from the router.

3. (Cancelled)

4. (Previously Presented) The method according to claim 2, wherein neighbor discovery protocol is used, wherein said solicitation message is a neighbor solicitation message and said advertisement message is an unsolicited neighbor advertisement message wherein an override flag is set.

5. (Cancelled)

6. (Previously Presented) The method according to claim 1 further comprising:

delaying the sending of a new advertisement message.

7. (Previously Presented) The method according to claim 1, wherein if a the server receives less than a predefined number of service queries in a predefined time interval, the method further comprises:

stopping the sending of the advertisement messages; and

switching to a standby mode.

8. (Previously Presented) The method according to claim 7, wherein if a the server being in the standby mode receives a solicitation message, the sending of the advertisement messages continues.

9. (Previously Presented) The method according to claim 1, wherein when the service process in a server stops, sending of the advertisement messages is stopped.

10. (Currently Amended) The method according to claim 1, wherein open shortest path first ~~Open Shortest Path First~~ version 6 protocol is used in communication between the router and the servers.

11. (Previously Presented) The method according to claim 1 further comprising:

sending an advertisement message with a route cost value suitable for the current situation in the server.

12. (Previously Presented) The method according to claim 11 further comprising increasing the route cost value if the server providing service is getting congested.

13. (Previously Presented) The method according to claim 11 further comprising decreasing the route cost value if the server providing service has capacity for new service queries.

14. (Currently Amended) The method according to claim 1, wherein the advertising message is an open shortest path first version 6 link state advertisement ~~Open Shortest Path First version 6 Link State Advertisement~~ message.

15. (Cancelled)

16. (Previously Presented) The method according to claim 11 further comprising:

sending an advertisement message with service load information.

17. (Previously Presented) The method according to claim 1 further comprising delivering the service load information of the server with a separate protocol.

18. (Previously Presented) The method according to claim 1, wherein service is domain name system service.

19. (Currently Amended) An apparatus, comprising:

a service process configured to provide service on a communication link via which the server is adapted to receive messages from a router or other servers;

a service-specific anycast address configured to a server interface on the communication link;

~~monitoring means for monitoring a monitor configured to monitor~~ said service process and the service-specific anycast address configured interface;

~~service scheduling means for scheduling a scheduler configured to schedule~~ the service process and a need for an advertisement message, wherein the service scheduling means are configured to take into account in determining the need for an advertisement message advertisement messages received to the service-specific anycast address from other servers; and

~~sending means for sending a transmitter configured to send~~ an advertisement message when the service process is able to provide the service via the communication link to all other servers in response to the scheduling of the service ~~scheduler scheduling~~ means.

20. (Cancelled)

21. (Currently Amended) The apparatus to claim 19, wherein the transmitter is further comprising means for enclosing configured to enclose service load information in the advertisement message.

22. (Previously Presented) The apparatus to claim 19, wherein the service in the server is the domain name system service.

23. (Previously Presented) The apparatus according to claim 19, wherein the advertisement message sending functionality in the server is configured to be activated by a solicitation message from the router.

24. (Previously Presented) The apparatus according to claim 19, wherein the neighbor discovery protocol is used wherein said solicitation message is a neighbor solicitation message and said advertisement message is an unsolicited neighbor advertisement message where the override flag is set.

25. (Currently Amended) The apparatus according to claim 19, wherein the scheduler is further ~~service scheduling means are~~ configured to delay the sending of a new advertisement message.

26. (Previously Presented) The apparatus according to claim 19, wherein if the server is not receiving any service queries in a predefined time interval, the server is configured to stop the sending of the advertisement messages and to switch to the standby mode.

27. (Previously Presented) The apparatus according to claim 26, wherein if the server being in the standby mode receives a solicitation message, the server is configured to continue the sending of advertisement messages.

28. (Previously Presented) The apparatus according to claim 19, wherein when the service process in a server stops, the server is configured to stop the sending of the advertisement messages.

29. (Currently Amended) The apparatus according to claim 19, wherein the open shortest path first ~~Open Shortest Path First~~-version 6 protocol is used in the communication between the router and the servers.

30. (Currently Amended) The apparatus according to claim 19, wherein ~~the server comprises means for enclosing~~ the transmitter is further configured to enclose a route cost value suitable for the current situation of the service process ~~in the server sending means~~ in the advertisement message.

31. (Previously Presented) The apparatus according to claim 30, wherein the server is configured to increase the route cost value if the service is getting congested.

32. (Previously Presented) The apparatus according to claim 30, wherein the server is configured to decrease the route cost value if the service has capacity for new service queries.

33. (Currently Amended) The apparatus according to claim 19, wherein the advertising message is an open shortest path first version 6 link state advertisement ~~Open Shortest Path First version 6 Link State Advertisement~~ message.

34. (Previously Presented) A computer program embodied on a computer readable medium, the computer readable medium storing code comprising computer executable instructions comprising:

providing a service with a service process in a server;

configuring a service-specific anycast address to a server interface on a communication link via which the server receives messages from a router or other servers;

monitoring the service process and the service-specific anycast address configured interface;

scheduling the service process and the need for an advertisement message, wherein the scheduling is configured to take advertisement messages received to the service-specific anycast address from other servers into account in determining the need for an advertisement message; and

sending an advertisement message when the service process is able to provide the service via the communication link to all other servers in response to the scheduling.

35. (Currently Amended) ~~A server~~ An apparatus configured to:

provide a service with a service process;

configure a service-specific anycast address to a server interface on a communication link via which the server receives messages from a router or other servers;

monitor the service process and the service-specific anycast address configured interface;

schedule the service process and the need for an advertisement message, wherein the scheduling is configured to take advertisement messages received to the service-specific anycast address from other servers into account in determining the need for an advertisement message; and

send an advertisement message when the service process is able to provide the service via the communication link to all other servers in response to the scheduling

36. (New) An apparatus, comprising:

a service process configured to provide service on a communication link via which the server is adapted to receive messages from a router or other servers;

a service-specific anycast address configured to a server interface on the communication link;

monitoring means for monitoring said service process and the service-specific anycast address configured interface;

service scheduling means for scheduling the service process and a need for an advertisement message, wherein the service scheduling means are configured to take into account in determining the need for an advertisement message advertisement messages received to the service-specific anycast address from other servers; and

sending means for sending an advertisement message when the service process is able to provide the service via the communication link to all other servers in response to the scheduling of the service scheduling means.

37. (New) The apparatus to claim 36 further comprising means for enclosing service load information in the advertisement message.

38. (New) The apparatus according to claim 36, wherein the service scheduling means are configured to delay the sending of a new advertisement message.

39. (New) The apparatus according to claim 36, wherein the server comprises means for enclosing a route cost value suitable for the current situation of the service process in the server sending means in the advertisement message.